AEM Computing
Advanced Geotagging Camera System User Manual

Compass Design..... 1

How to Operate the System

Basic Operations..... 2

Uploading Pictures to a Computer..... 3

Viewing EXIF Data 4

Compass Design

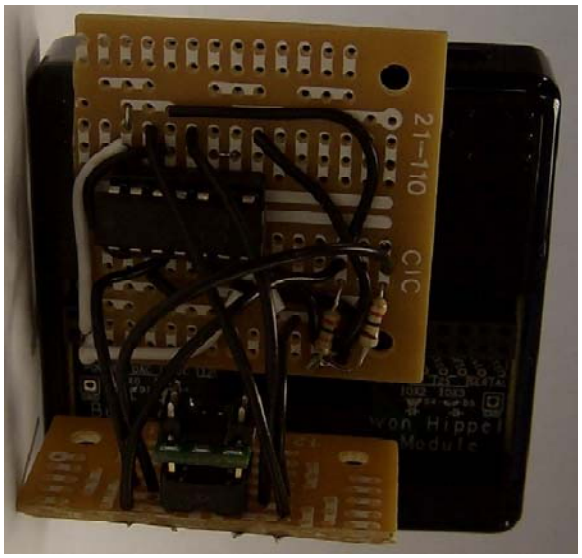

Figure 1: BUGvonHippel Compass Module

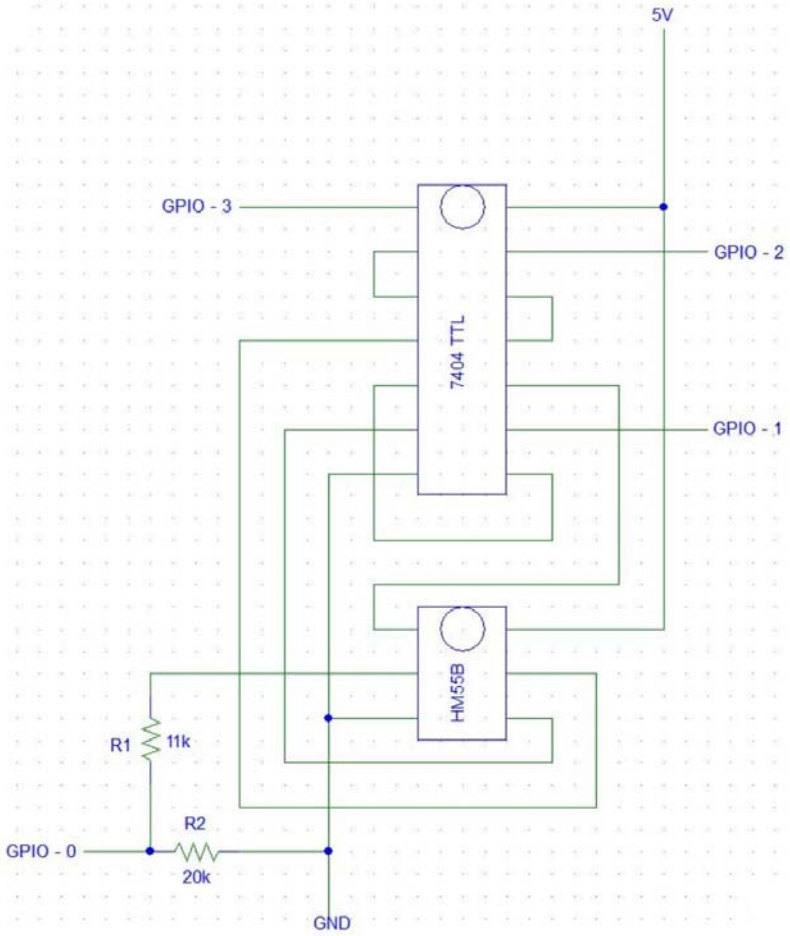

Figure 2: Compass Schematic

The compass circuit should be constructed on a small to medium sized perforated board that can be purchased from any RadioShack. The perforated board needs to cut so that the compass IC can be mounted perpendicular to the board and the BUGvonHippel so that it is parallel to the ground (see Figure 1). The compass needs to be shielded from electromagnetic interference emanating from the BUGvonHippel module. This can be done using something like copper tape or aluminum foil.

How to Operate the System: Basic Operations

Figure 3: Main Menu

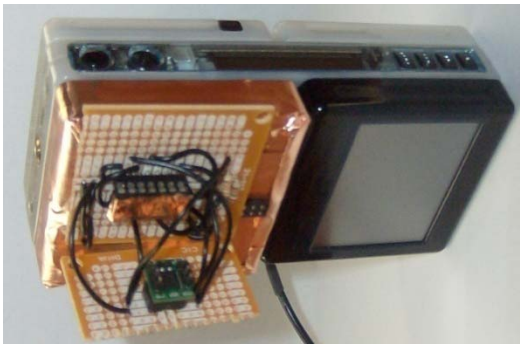

Figure 4: Camera System

Taking a Picture:

- Enter Camera Mode by touching the camera icon shown in Figure 3
- Press the rightmost button on the right hand side of the BUGbase shown in Figure 4
- To return to the Main Menu press the leftmost button on the right hand side of the BUGbase shown in Figure 4

Viewing GPS/Compass Data:

- Enter GPS/Compass Mode by touching the globe icon shown in Figure 3

Viewing Pictures Taken:

- Enter Review Mode by touching the file icon shown in Figure 3
- Use the arrow icons on the left hand side of the LCD touch screen to navigate

Deleting Pictures Taken from the Bug:

- Enter Review Mode by touching the file icon shown in Figure 3
- Navigate to the appropriate picture and touch the trashcan icon on the left hand side of the LCD touch screen

Changing Settings:

- Enter Settings Mode by touching the screwdriver and wrench icon shown in Figure 3

How to Operate the System: Uploading Pictures to a Computer

Step 1: Install WinSCP if not already on your computer. http://winscp.net/eng/download.php

Step 2: Open WinSCP and create a new connection.

Step 3: In the host name field, enter “10.10.10.10”. In the port number field, enter “22”. In user name field, enter “root”. Also, ensure that the file protocol is SCP (see Figure 5).

Step 4: Click “Login” to connect to the BUG.

Step 5: Open the Images folder and copy the images to your computer.

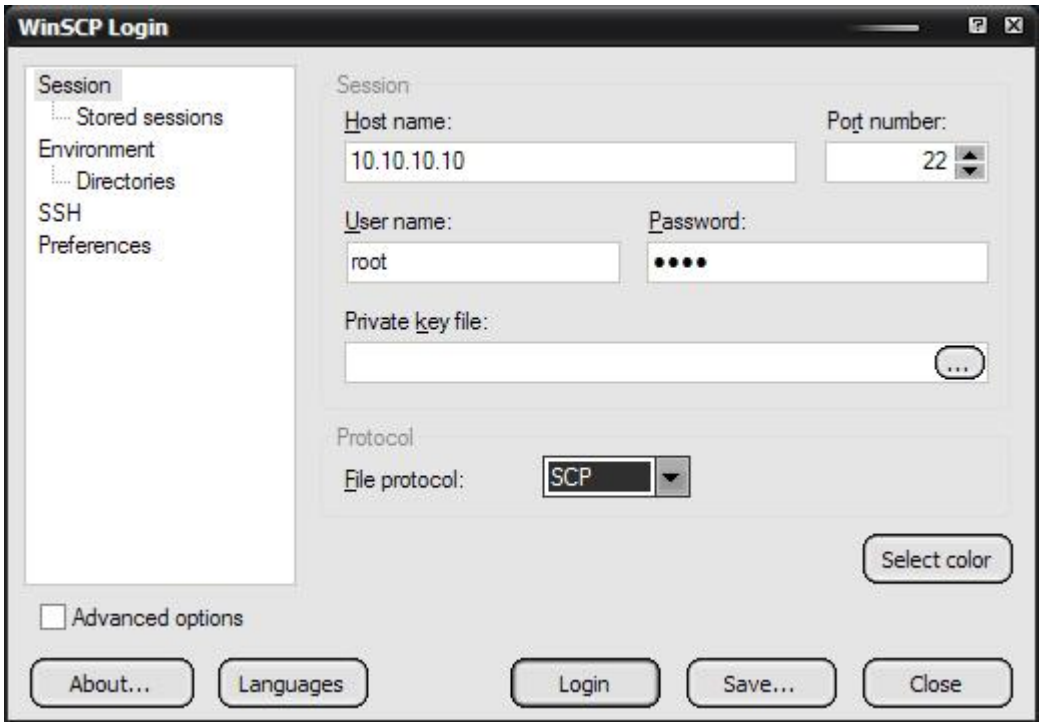

Figure 5: WinSCP Screen Capture

How to Operate the System: Viewing EXIF Data

Step 1: Download an EXIF Viewer (There are two available for downloading on AEM Computing's Website)

Step 2: Open EXIF Viewer

Step 3: Open the photo you would like to view the EXIF fields of

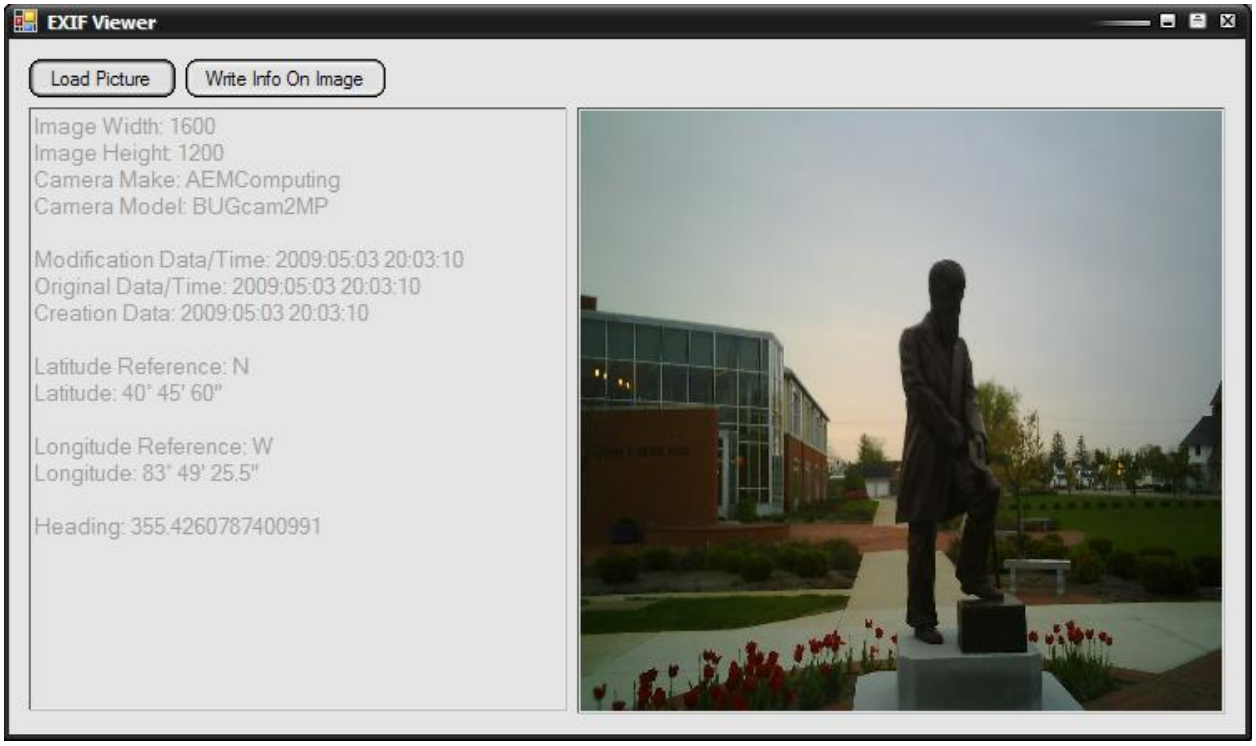

Figure 6: EXIF Viewer Screen Capture